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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,270	06/23/2005	Yasushi Nakanishi	053673-0021	1428

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MCDERMOTT WILL & EMERY LLP  
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WASHINGTON, DC 20005-3096

EXAMINER
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BURNEY, RACHEL L

ART UNIT	PAPER NUMBER
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1795

MAIL DATE	DELIVERY MODE
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07/25/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/540,270	<b>Applicant(s)</b> NAKANISHI ET AL.	
	<b>Examiner</b> Rachel L. Burney	<b>Art Unit</b> 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 April 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 April 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5409764, Otsuki et al. in view of US Patent 5563236, Murata et al.

With respect to claim 1, Otsuki discloses a polyester resin which is formed through the reaction of a polyester oligomer and an adhesive polymer, wherein the polyester oligomer comprises a compound having a hydroxyl group and an epoxide (column 3, lines 20-27). The adhesive polymer may comprise a tackifier, which includes rosins and modified rosins in an amount of 0-100 parts by weight base on 100 parts of the adhesive acrylic polymer (column 11, line 55 - column 12, line 16), which would include disproportionated rosin; the adhesive polymer also may include a monomer to improve bond strength, such as an isophthalate in an amount of 0-60% by weight of the adhesive composition (column 11, lines 38-54). The compound having a hydroxyl group is an aliphatic diol (column 4,

line 67 - column 5, line 18) and the epoxide includes glycidyls which may be substituted with unsaturated hydrocarbon groups (column 6, lines 3-11). The amounts the compound having a hydroxyl group and the epoxide are both from 2-20 moles each (column 7, lines 14-41). The given ranges of the components overlap with the desired ranges of the instant claim. The polymer may also contain a cross-linking component, which may be an isocyanate having three functional groups or more (column 11, lines 5-23). Otsuki fails to disclose the use of a cross-linking component of a polycarboxylic acid or a polyol. Murata discloses a resin comprising a polyester which has an acid component and a polyol component (column 2, lines 28-31), which may contain a crosslinking agent (column 4, lines 39-41). The crosslinking agent may be an isocyanate or isocyanate-terminated compound including polyols, such as sorbitol (column 5, lines 21-38). Sorbitol is one of the given examples of a polyol having three or more hydroxyl groups. It would have been obvious to one of ordinary skill in the art at the time of the invention to use an isocyanate-terminated compound, such as sorbitol, as the cross-linking component of Otsuki because Murata teaches that they are functionally equivalent, and one would have a reasonable expectation of success in doing so.

With respect to claim 2, Otsuki further discloses that the polyester resin may comprise a rosin glycerin ester (column 11, lines 65-66).

With respect to claims 3 and 4, Otsuki does not disclose the true density of the polyester resin, however the resins are similar made with similar chemical

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components, so therefore it would be reasonable to conclude that the properties, such as true density, would also be similar.

3. Claims 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5409764, Otsuki et al. in view of US Patent 5563236, Murata et al. as applied to claim 1 above, and further in view of US Patent 4868078, Sakai et al. Sakai discloses a toner comprising a coloring agent and a charge-control agent (column 10, lines 22-26). The toner may also comprise an adhesive component having a binder resin made from the polymerization of polyesters and oligomers (column 12, line 29 – column 13, line 17). Sakai does not disclose the specific use of the polyester resin as discussed above. It would have been obvious to one of ordinary skill in the art to use the adhesive resin comprised of polyesters and oligomers of Otsuki and Murata, as discussed above, as the adhesive resin comprised of polyesters and oligomers of Sakai because they are similar adhesive binder resins and one would have a reasonable expectation of success in doing so.

4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5409764, Otsuki et al. in view of US Patent 5563236, Murata et al. in view of US Patent 4868078, Sakai et al., as applied to claim 5 above, and further in view of US Patent 4968575, Matsumura et al. Sakai further discloses that the toner may comprise a negative-charge control agent (column 11, lines 13-20), but fails to teach the use of a metal salt of an aromatic hydroxycarboxylic acid. Matsumura disclose a toner

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comprising a charge control agent, which is a from the Bontron S series, for negatively charged particles (column 4, line 64 - column 5, line 2), Bontron S comprises metal salts of aromatic hydrocarboxylic acids. It would have been obvious to one of ordinary skill in the art at the time of the invention to use any negative-charge control agent in Sakai, such as the Bontron S series, as disclosed by Matsumura.

5. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5409764, Otsuki et al. in view of US Patent 5563236, Murata et al. in view of US Patent 4868078, Sakai et al., as applied to claim 5 above, and further in view of US PGPub 2002/0085851, Murata et al. Otsuki, Murata ('236), and Sakai disclose the toner of claim 5 as discussed above. Sakai further discloses an image forming method comprising fixing an image with a heating roller and a pressure roller (column 13, lines 36-59), but fails to teach the fixing temperature and the use of a fixing belt. Murata ('851) discloses an image forming method that uses an image forming apparatus which comprises a fixing belt which runs between a pressing roller and a heating roller (PP 0005), which leads to high uniformity and high temperature resumability (PP 0004). It would have been obvious to one of ordinary skill in the art to use the image forming apparatus of Murata ('851) for the toner of Otsuki, Murata ('236), and Sakai to obtain high uniformity and temperature resumability; and to use a workable heating temperature, which would reasonably fall within the desired ranges. Otsuki, Murata ('236), Sakai, and Murata ('851) do not disclose the ratio of the width of the portion where the heating roller and the pressure roller contact each other to the fixing speed,

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but it would be obvious to one of ordinary skill in the art to find a fixing speed that is optimal for the size of the rollers.

### ***Response to Arguments***

#### *Drawings*

6. In view of the amendments filed on 04/10/2008, the objection to the drawings has been withdrawn.

#### *Claim Rejections - 35 USC § 103*

7. Applicant's arguments, see pages 6-9, filed 04/10/2008, with respect to the rejection(s) of claim(s) 1-8 under Matsumura in view of Asami have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made as discussed above.

### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rachel L. Burney whose telephone number is (571)272-9802. The examiner can normally be reached on Mon-Thurs: 7:30-6:00 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark F. Huff/  
Supervisory Patent Examiner, Art Unit 1795

RLB